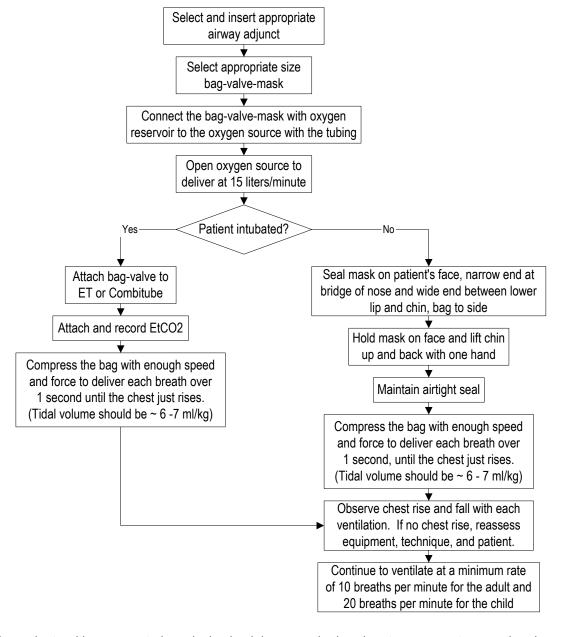
Initial: 9/92
Reviewed/revised: 6/1/06
Revision: 4

MILWAUKEE COUNTY EMS PRACTICAL SKILL BAG-VALVE VENTILATION

Approved by:	Ronald Pirrallo, MD, MHSA
Signature:	
Page 1 of 1	

Purpose:		Indications:	
To assist respirations in a patient whose respiratory effort is absent or inadequate		Any patient with inadequate or absent respiratory effort	
Advantages:	Disadvantages:	Complications:	Contraindications:
Provides for ventilation with supplemental oxygen Reduces exposure to upper airway secretions	Can be difficult to maintain face seal Does not prevent aspiration	Gastric inflation	Facial trauma with disruption of the bone framework of the face and iaw



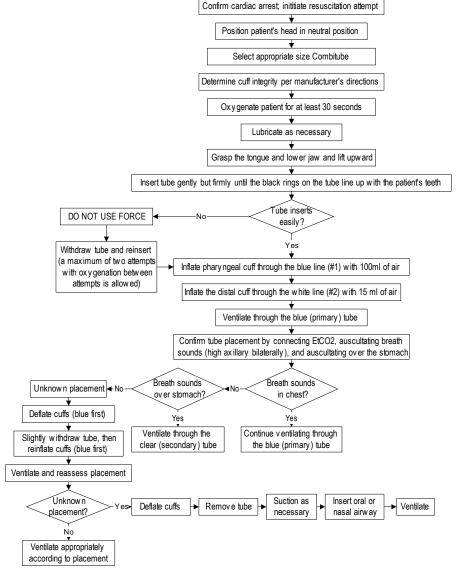
- For patients with a suspected cervical spine injury, use the jaw thrust maneuver to open the airway.
- For patients not intubated, the 2-person method for bag-valve-mask ventilation is preferred.

Initial: 5/96 Reviewed/revised: 12/11/02 Revision: 3

MILWAUKEE COUNTY EMS PRACTICAL SKILL COMBITUBE AIRWAY

Approved by: Ronald Pirrallo, MD, MHSA	
Signature:	
Page 1 of 1	

Purpose:		Indications:		
To prevent regurgitation of stomach contents into the airway To facilitate ventilation with a bag-valve mask To provide a secure airway		Cardiac arrest, medical or traumatic		
Advantages: Disadvantages:		Complications:	Contraindications:	
Cannot be misplaced Minimal training required Minimal spinal manipulation Facilitates suctioning	Gag reflex must be absent Patient must be unconscious Placement must be identified (trachea or esophagus) May need removal before endotracheal intubation	Possible trauma to airway or esophagus	Patients <5 feet in height for Combitube Patients < 4 feet in height for Combi SA Known esophageal disease or trauma Intact gag reflex Caustic ingestion	



NOTES:

When ventilating through the blue (primary) tube:

- The Combitube is placed in the esophagus when breath sounds are present bilaterally and epigastric sounds are absent.
 - The clear tube may be used for removal of gastric fluid or gas with the catheter provided in the airway kit.
- The Combitube is placed in the trachea when breath sounds are absent and epigastric sounds are present.
- The Combitube placement is unknown when both breath and epigastric sounds are absent.

Reviewed/revised: 12/11/02

Revision: 2

MILWAUKEE COUNTY EMS PRACTICAL SKILL COMBITUBE REMOVAL

Approved by:	Ronald Pirrallo, MD, MHSA
Signature:	
Page 1 of 1	

Purpose:		Indications:	
To safely remove a Combitube from the patient's airway		Patient regains consciousness Protective gag reflex returns Ventilation is inadequate	
Advantages:	Disadvantages:	Complications:	Contraindications:
Removes focus of discomfort and agitation from a patient with an intact gag reflex who is adequately ventilating on their own	Loss of positive airway control	Aspiration	Any patient unable to adequately ventilate or protect own airway

Position patient on side, using spinal precautions as necessary

 \blacksquare

Have operating suction unit ready and turned on



If bagging through blue (primary) tube, decompress the stomach with suction catheter provided



Deflate both cuffs (blue then white) and withdraw the airway



Monitor the airway and respirations closely



Provide supplemental oxygen



Suction as needed

- If considering Extubation due to patient agitation, contact medical control for possible sedation order.
- Remove the tube in a smooth, steady motion, suctioning as needed.

Initial: 9/12/01

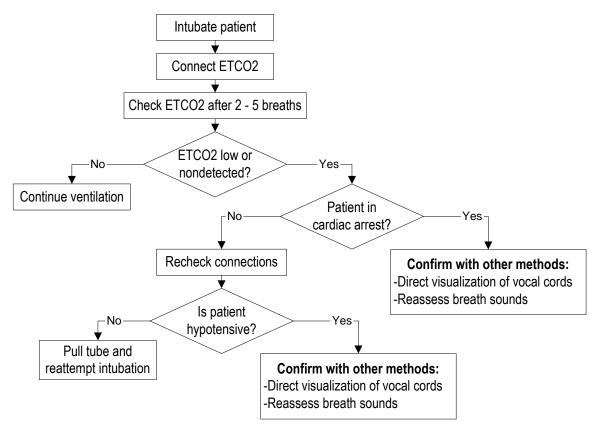
Reviewed/revised: 9/24/03

Revision: 1

MILWAUKEE COUNTY EMS PRACTICAL SKILL CONFIRMATION OF INTUBATION

Approved by:	Ronald Pirrallo, MD, MHSA
Signature:	
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Purpose:		Indications:	
To confirm that an endotracheal tube has been correctly placed in the patient's trachea; to confirm that a patient is being ventilated through the correct port of the Combitube.		Critically ill patient who is intubated with an endotracheal tube or Combitube.	
Advantages:	Disadvantages:	Complications:	Contraindications:
Confirms that supplemental oxygen is being delivered to the patient's lungs	None	Inaccurate reading due to misplacement of ETT or ventilation through wrong port of Combitube.	None



- ETCO2 can be used in addition to listening for breath sounds with the Combitube to confirm ventilation through the proper tube.
- A normal ETCO2 reading is between 33 and 43 mmHg.
- The ETCO2 waveform can be used as a guide to CPR compressions and return of spontaneous circulation.
- The ETCO2 should be recorded whenever vital signs are checked and after moving the patient. Minimally, the value should be recorded immediately after intubation and upon arrival at the hospital (or when resuscitative efforts are stopped).

Initial: 9/92 Reviewed/revised: 10/14/09 Revision: 7

MILWAUKEE COUNTY EMS PRACTICAL SKILL ENDOTRACHEAL INTUBATION

Approved by: Ronald Pirrallo, MD, MHSA	
Signature:	
Page 1 of 1	

Purpose:		Indications:		
To provide positive control of an airway		Patients in severe respiratory	distress	
To facilitate assisted ventilation in	a patient with inadequate resp	oirations	Unconscious patients unable	o protect own airway
To prevent aspiration in a patient v	vith decreased reflexes		Apnea or inadequate respirato	ory effort
Advantages:	Disadvantages:	Complic	ations:	Contraindications:
Positive control of the airway	Requires special training	Airway tra	auma	Patient with intact gag
Prevents aspiration	and equipment	Misplace	ment	reflex
Facilitates ventilation	May be difficult to avoid	Esophageal placement causes hypoxia		
Provides route for administration	C-spine movement	Potential for simple or tension		
of selected medications	Does not prevent gastric	pneum	othorax	
Facilitates suctioning	regurgitation	Gastric d	ilatation	
	Assure adequate vent	ilation and	oxygenation of patient	
		V		
Assemble lary	ngoscope and blade, checkir	ng the batte	ry and security of the light bulb	in the blade
		+		

Select appropriate size ETT with exterior diameter approximately equal to the diameter of the distal joint of the patient's little finger

Inflate the cuff, check for leaks; deflate the cuff

Lubricate the ETT with water soluble gel

Slightly extend patient's head, maintaining in-line stabilization for suspected C-spine injury

Holding the laryngoscope in the left hand, insert the blade into the right side of the mouth and sweep the tongue to the left

Lift up and anterior with the blade to expose the pharynx and epiglottis

Visualize the vocal cords and pass the tube through the cords until the cuff has passed ~ 1cm below the cords

Inflate the cuff and connect EtCO2

Auscultate over the stomach and bilaterally over the axillae to confirm placement

Secure the tube with an appropriate device based on the tube size: 4.0 or smaller - sliplock; 4.5 or larger - comfit

Ventilate with frequent reassessment of breath sounds

- To prevent accidental extubation of a patient who has been intubated, the following steps should be taken when managing a patient with a 2.5 5.5 ET tube:
 - o Inflate the cuff with 1 cc air. Avoid overinflating the cuff, as this may cause airway damage. The pilot balloon should remain soft after inflation of the cuff.
 - Verify ETT placement by connecting and documenting the EtCO2 reading.
 - Management of the airway should be maintained by an EMT-Paramedic and not turned over to an EMT-Basic.
 - The head of the intubated patient should be maintained in an in-line stabilized position during transport.
- Most accidental extubations of patients occur during patient movement. The bag-valve assembly should be disconnected from the ETT for no longer than 30 seconds. ETT placement must be verified when reattaching the bag-valve.
- Limit intubation attempts to two attempts per provider with one additional attempt by one additional provider total of three attempts. Assure adequate oxygenation and ventilation between intubation attempts. If unable to intubate ater three attempts, insert non-visualized airway.

Reviewed/revised: 12/11/02

Revision: 2

MILWAUKEE COUNTY EMS PRACTICAL SKILL ENDOTRACHEAL EXTUBATION

Approved by:	Ronald Pirrallo, MD, MHSA
Signature:	
Page 1 of 1	

Purpose:		Indications:		
To safely remove an indwelling endotracheal tube (oral or nasal) from the trachea		Patient's gag reflex returns and is ventilating on own		
Advantages:	Disadvantages:	Complications:	Contraindications:	
Removes focus of discomfort and agitation from an alert patient who has an intact gag reflex and is ventilating on his/her own	Loss of positive airway control	Laryngospasm Aspiration	Any patient unable to adequately ventilate or protect his/her own airway	

Evaluate the patient's level of consciousness and ability to follow commands prior to extubation

Ex plain the procedure to the patient

Ventilate the patient for approximately 8 breaths

Suction the mouth and orophary nx, using a soft tip suction catheter to remove all secretions that may be above the cuff of the endotracheal tube

Instruct the patient to take a deep breath

Attach the syringe, deflate the cuff and have the patient cough as the tube is gently removed from the airway

Instruct the patient to cough and to take deep breaths

Supplement the patient with high flow oxygen via non-rebreather mask for the duration of prehospital care

Monitor the patient carefully for respiratory distress; be prepared to re-intubate if necessary

NOTE:

• If considering Extubation due to patient agitation, contact medical control for possible sedation order.

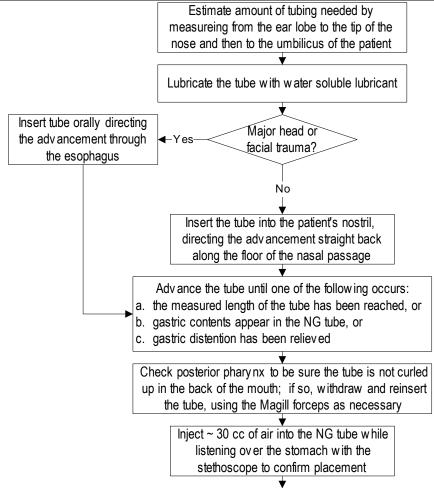
Reviewed/revised: 5/10/00

Revision: 2

MILWAUKEE COUNTY EMS PRACTICAL SKILL GASTRIC TUBE PLACEMENT

Approved by:	Ronald Pirrallo, MD, MHSA
Signature:	
Page 1 of 1	

Purpose:		Indications:		
To decompress gastric dilatation following		Intubated patient with gastric dilatation		
placement of an endotrachea		A " "		
Advantages:	Disadvantages:	Complications:	Contraindications:	
Decompresses the stomach, reducing the chance for regurgitation and aspiration Allows freer downward movement of the diaphragm, making ventilation easier	May stimulate vomiting	Epistaxis Accidental passage into the trachea may stimulate coughing	May NOT be used with an uncuffed ET tube	



NOTES:

- The tube may be inserted orally if difficulty is encountered during attempt at nasal insertion.
- If a Combi-tube is in place with ventilation through the blue port, the NG tube (or a pediatric feeding tube)
 may be inserted through the white port.

Secure the NG tube with tape

Initial: 10/15/08 Reviewed/revised: Revision:

MILWAUKEE COUNTY EMS PRACTICAL SKILL KING LT-D AIRWAY

Approved by:	Ronald Pirrallo, MD, MHSA
Signature:	
Page 1 of 1	

Purpose:			Indications:	
To facilitate ventilation with a bag-valve mask			Cardiac arrest, medical or traumatic	
To provide a secure airway	To provide a secure airway when endotracheal intubation is no			
Advantages:	Disadvantages: Complication		ons: Contraindications:	
Minimal training required Rapid blind insertion Faster time to ventilation	Gag reflex must be absent Patient must be unconscious Does not protect from aspiration May require removal before endotracheal intubation is possible	Possible trauma to airway or esophagus		Known esophageal disease or trauma Upper airway trauma or bleeding Intact gag reflex Caustic ingestion

Confirm cardiac arrest; inititiate resuscitation attempt Position patient's head in neutral position Select appropriate size King LT-D airway Determine cuff integrity per manufacturer's directions Oxygenate patient for at least 30 seconds \forall Lubricate as necessary Grasp the tongue and lower jaw and lift upward Insert tube gently but firmly into corner of mouth, advancing the tip under base of tongue Rotate tube back to midline as tip of tube passes under the tongue Advance tube until base of connecter is aligned with teeth or gums Inflate pilot tube Attach bag-valve device to connector and ventilate While bagging patient to assess ventilation, withdraw airway until ventilation is easy and adequate tidal volume is achieved with minimal airway resistance Confirm tube placement by connecting EtCO2 and assessing respiratory effect (breath sounds, chest rise, color improvement, etc.) Document and report EtCO2 to medical control Continue ventilating at a rate consistent with current AHA guidelines

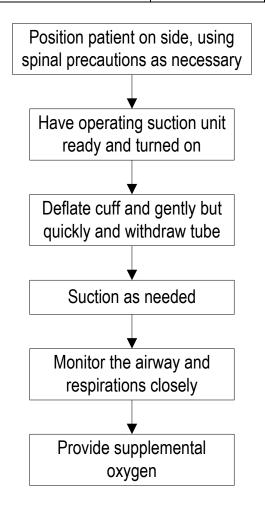
Reassess tube placement and ventilatory status frequently

Initial: 10/15/08	
Reviewed/revised:	
Revision:	

MILWAUKEE COUNTY EMS PRACTICAL SKILL KING LT-D AIRWAY REMOVAL

Approved by:	Ronald Pirrallo, MD, MHSA
Signature:	
Page 1 of 1	

Purpose:		Indications:		
To safely remove a King LT-D airway from the patient's airway		Patient regains consciousness Protective gag reflex returns Ventilation is inadequate		
Advantages:	Disadvantages:	Complications:	Contraindications:	
Removes focus of discomfort and agitation from a patient with an intact gag reflex who is adequately ventilating on their own	Loss of positive airway control	Aspiration	Any patient unable to adequately ventilate or protect own airway	



- If considering Extubation due to patient agitation, contact medical control for possible sedation order.
- Remove the tube in a smooth, steady motion, suctioning as needed.

Initial: 9/92 Reviewed/revised: 6/1/06 Revision: 2

PRACTICAL SKILL NASOPHARYNGEAL AIRWAY

Approved by: Ronald Pirrallo, MD, MHSA
Signature:
Page 1 of 1

<u>INSERTION</u>

Purpose:		Indications:		
To maintain a patent airway by holding the tongue off the posterior pharynx		Decreased level of consciousness		
Advantages:	Disadvantages:	Complications:	Contraindications:	
Better tolerated than rigid oral airway Less likely to stimulate gag reflex as patient regains consciousness Can be inserted without having to open mouth	Does not prevent aspiration	May cause epistaxis Pharyngeal stimulation may cause gagging or vomiting	Should not be inserted in patients with suspected basilar skull fractures or severe facial trauma	

Select airway slightly smaller in diameter than the patient's nostril, equal in length to the distance from the nostril to ipsilateral earlobe, plus 1 inch

 \forall

Lubricate the exterior of the airway with a water soluble lubricant



Insert the airway into the nare with with bevel facing the nasal septum



Direct the airway straight back along the floor of the nasal passage until the flange end touches the external nares



Suction as necessary to clear secretions

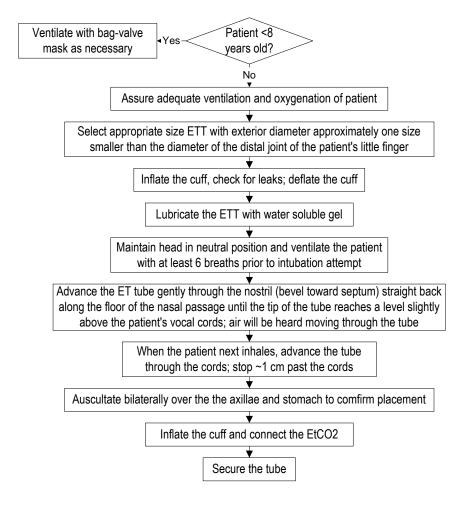
Reviewed/revised: 10/15/08

Revision: 5

MILWAUKEE COUNTY EMS PRACTICAL SKILL NASOTRACHEAL INTUBATION

Approved by:	Ronald Pirrallo, MD, MHSA
Signature:	
Page 1 of 1	

Purpose:			Indications:	
To provide positive control of an air some respiratory effort, who have intact gag reflex, or whose mouth To facilitate assisted ventilation in a respirations	e a suspected C-spine injury, a cannot be opened		Patients in severe respirato Conscious patients unable t Apnea or inadequate respira	o protect own airway
Advantages:	Disadvantages:	Co	mplications:	Contraindications:
Positive control of the airway Prevents aspiration Facilitates ventilation Provides route for administration of selected medications Facilitates suctioning No need to manipulate C-spine Better tolerated by conscious patient	Requires special training and equipment Cannot be used on pediatric patients under 8 years of age due to anatomy of the airway	Complications: Airway trauma Misplacement Esophageal placement causes hypoxia Potential for simple or tension pneumothorax Gastric dilatation Epistaxis		Basilar skull fracture Major facial trauma Laryngospasm



NOTES:

• Limit intubation attempts to 2 attempts per provider with one additional attempt by one additional provider – total of 3 attempts. Assure adequate oxygenation and ventilation between intubation attempts.

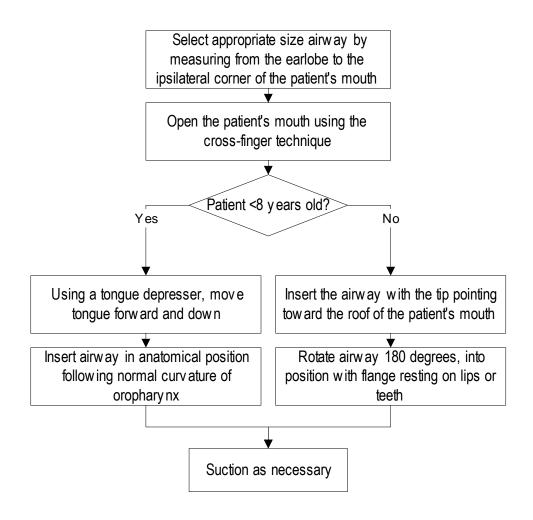
Reviewed/revised: 6/1/06

Revision: 2

MILWAUKEE COUNTY EMS PRACTICAL SKILL ORAL AIRWAY INSERTION

Approved by:	Ronald Pirrallo, MD, MHSA
Signature:	
Page 1 of 1	

Purpose:		Indications:	
To maintain a patent airway by holding the tongue off the posterior pharynx		Unconscious patients without a gag reflex	
Advantages:	Disadvantages:	Complications:	Contraindications:
Maintains a patent airway	Does not prevent aspiration	Oral trauma	Any patient with an
Easy to use with minimal training necessary	May stimulate gag reflex	Vomiting with possible aspiration	intact gag reflex
Prevents the patient from biting			
down on objects in the mouth			
(e.g. endotracheal tube)			



- A tongue blade may be used to insert the airway in anatomical position for the adult patient.
- Use the jaw lift or jaw thrust without head tilt for the patient with a possible cervical spine injury.

Initial: 7/94
Reviewed/revised: 6/1/06
Revision: 3

MILWAUKEE COUNTY EMS PRACTICAL SKILL POCKET MASK VENTILATION

Approved by:	Ronald Pirrallo, MD, MHSA
Signature:	
Page 1 of 1	

Purpose:			Indications:		
To ventilate a patient when a bag-valve-mask is not available To administer supplemental oxygen			Any patient with inadequate or absent respiratory effort		
To reduce exposure to the patient's upper re	espiratory secretions				
Advantages:	Disadvantages:	C	omplications:	Contraindications:	
Barrier device to provide mouth-to-mouth ventilation without direct contact with secretions Provides supplemental oxygen Easier to obtain face seal by using 2 hands to seal the face mask	Does not prevent aspiration	G	astric distention	Facial or upper airway trauma	

Select and insert oropharyngeal or nasopharyngeal airway

Attach one-way valve on mask

Attach oxygen delivery tube to oxygen source and mask inlet valve

Turn on oxygen and adjust liter flow to 8 - 10 liters/minute

Seal mask on patient's face, narrow end at bridge of nose, wide end between lower lip and chin (Reverse for infant)

Hold mask on patient's face with both hands and lift chin up and back

Maintain airtight seal

Ventilate patient by blowing into the top of the one-way valve with sufficient force to attain an observable chest rise

If resistance is felt, reassess the airway, taking measures necessary to maintain an open airway

Remove mouth from the mask, allowing patient to exhale while holding the mask firmly on the face

Reviewed/revised: 5/21/08

Revision: 2

MILWAUKEE COUNTY EMS PRACTICAL SKILL REMOVAL OF AIRWAY OBSTRUCTION

Approved by:	Ronald Pirrallo, MD, MHSA
Signature:	
Page 1 of 1	

Purpose:		Indications:		
To remove a foreign body from the upper airway		Patient with an airway obstruction		
Advantages:	Disadvantages:	Complications:	Contraindications:	
Rapid removal of visible obstruction Avoids potential trauma of abdominal thrusts	Requires specialized equipment and training Obstruction must be visible	Oral or airway trauma	Foreign body below the level of the vocal cords	

Assemble laryngoscope and blade, checking the battery and light source

Place patient's head in a slightly extended position, maintaining in-line stabilization for patients with suspected C-spine injury

Holding the laryngoscope in the left hand, insert the blade into the right side of the mouth and sweep the tongue to the left

Lift up and anterior with blade to expose the the pharynx and epiglottis

Suction as necessary

Visualize the foreign body

Holding Magill forceps in the right hand, insert the tip into the patient's mouth, grasp and remove the obstruction

Visualize airway for further obstructions before removing laryngoscope blade

Ventilate patient for 5-6 breaths with supplemental oxygen

NOTES:

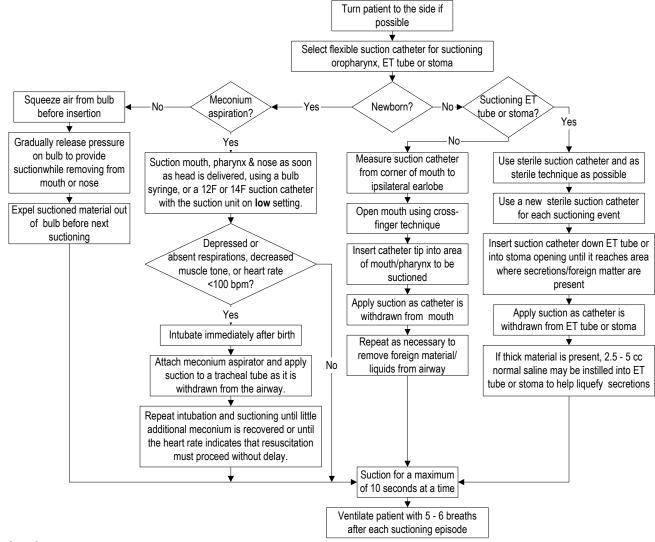
• To prevent damaging the patient's teeth, avoid any leverage on the laryngoscope blade or teeth.

Initial: 9/92 Reviewed/revised: 5/21/08 Revision: 4

MILWAUKEE COUNTY EMS PRACTICAL SKILL SUCTIONING

Approved by:	Ronald Pirrallo, MD, MHSA
Signature:	
Page 1 of 1	

Purpose:		Indications:		
To remove foreign material from the upper airway,		Patient with foreign material in upper airway		
endotracheal tube, and Combi-tube Advantages: Disadvantages:		Complications:	Contraindications:	
Clears foreign material and	Removes air	Hypoxia	None	
liquids from the airway	May introduce bacteria	Oral trauma		
	into the airway	May stimulate vomiting		



- Suctioning removes air as well as secretions. Ventilate with 5-6 breaths supplemental oxygen after each procedure.
- During suctioning, the ECG monitor (or pulse rate if not on a monitor) should be observed to quickly identify if bradycardia an indicator of hypoxia occurs.
- The rigid suction tip can cause airway trauma and is NOT to be used in a moving vehicle.
- Aggressive suctioning of a newborn may cause a vagal bradycardia.
- Use a length based tape to select the appropriate catheter size for suctioning a newborn.

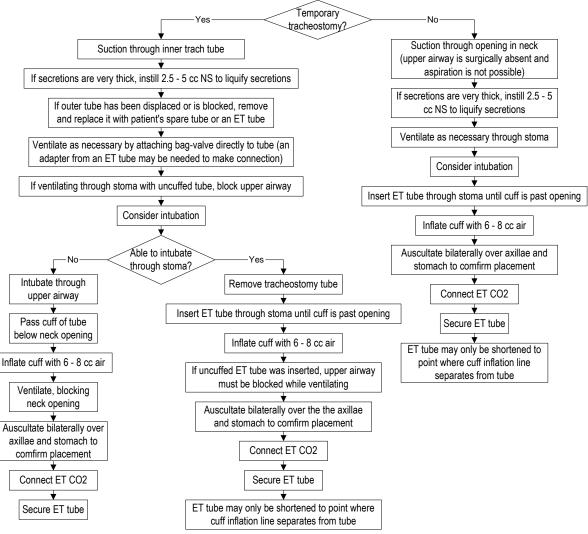
Reviewed/revised: 5/21/08

Revision: 4

MILWAUKEE COUNTY EMS PRACTICAL SKILL TRACHEOSTOMY CARE

Approved by:	Ronald Pirrallo, MD, MHSA
Signature:	
Page 1 of 1	

Purpose:		Indications:		
To maintain a patent airway and adequate oxygenation of the patient with a temporary or permanent tracheostomy		Patients with temporary or permanent tracheostomies obstructed by secretions		
To remove or replace a tracheostomy tube		Patients unable to replace tracheostomy tubes		
Advantages:	Disadvantages:		Complications:	Contraindications:
Clears foreign material and	Removes air		Нурохіа	None
liquid from the tracheostomy	May introduce bacteria into the airway		Airway trauma	



- A temporary tracheostomy bypasses the upper airway. A metal or plastic tube is inserted through the soft tissue of the anterior neck into the trachea and is held in place with ties circling the neck.
- Temporary tubes are rarely cuffed and aspiration is possible from above or from gastric contents.
- A permanent tracheostomy is created when the upper airway structures are surgically removed. A stoma is created in the anterior neck and the trachea surgically attached to the stoma.
- Suctioning removes air as well as secretions. Hyperventilate with 5 6 breaths after suctioning.